

FINAL

**AMENDMENT #4 TO THE
AMERICAN LOBSTER
FISHERY MANAGEMENT PLAN**

**INCORPORATING AN
ENVIRONMENTAL ASSESSMENT
AND
REGULATORY IMPACT REVIEW**

**Prepared by the
New England Fishery Management Council**

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I. INTRODUCTION

Amendment 4 to the American lobster fishery management plan (FMP) proposes to (1) reduce the minimum carapace size of American lobster from 3-9/32 inches to 3-1/4 inches to conform to the size that is currently required in major lobster-producing states such as Maine, Massachusetts and Rhode Island; (2) delay further increases in the minimum size until two years after the implementation of this amendment, unless the Council has developed a comprehensive amendment to the FMP which further addresses management strategies for the American lobster throughout its range with an emphasis on alleviating any overfishing; and (3) modify the minimum dimensions of the escape vent to provide optimum escapement of smaller than legal-size ("sublegal") lobsters consistent with a 3-1/4 inch minimum carapace size.

If, within two years of the implementation of this amendment, the Council has not submitted a comprehensive amendment, the increases in the minimum carapace length proposed in Amendment 2 would resume. In accordance with Amendment 3, the minimum dimensions of the escape vent also would increase to be consistent with a 3-5/16 inch minimum carapace length.

The American Lobster Fishery Management Plan (FMP) was implemented on September 7, 1983 (48 FR 36266). The main objective of this plan was, "To support and promote the development and implementation, on a continuing basis, of a unified, regional management program for American lobster (*Homarus americanus*), which is designed to promote conservation, to reduce the possibility of recruitment failure, and to allow the full utilization of the resource by the United States industry." The FMP established a minimum size (gauge size) of 3-3/16 inches measured along the carapace (back) for lobsters taken from the U.S. exclusive economic zone (EEZ). The FMP also prohibited possession of egg-bearing lobsters and established trap escape vent requirements.

Amendment 1, implemented in May 1986, instituted gear marking requirements for the offshore lobster fishery. Amendment 2, implemented in December 1987, prohibited the possession of v-notched American lobsters, and increased the minimum carapace length requirement to 3-5/16 inches in four 1/32-inch increments effective January 1, 1988, 1989, 1991, and 1992, respectively. Three of the four increments approved under Amendment 2 have been implemented and the current minimum size is 3-9/32 inches. In 1990, after the second consecutive year in which the minimum size was increased, the FMP provided a one-year delay before implementing the next increase.

Amendment 2 also increased the size of the escape vent during the off-year (1990) from 1-3/4 inches (the height of a square opening or lath spacing) to 1-7/8 inches. Amendment 3, implemented in November 1989, adjusted the height of the escape vent to 1-15/16 inches. This adjustment was scheduled to be implemented in 1992, when the minimum carapace length was scheduled to be 3-5/16. The main purpose of Amendment 3 was to allow the maximum utilization of the resource through the maximum retention of legal sized lobsters during the period of scheduled size increases. Amendment 3 also required that lobster traps contain degradable escape panels to minimize mortality caused by lost or abandoned traps. This requirement will be effective on May 28, 1992.

Since 1989, several industry associations including the Massachusetts Lobstermen's Association and the Maine Lobstermen's Association have suggested that the Council should delay increases in the carapace length beyond 3-1/4 inches. These and other industry groups claimed that these increases put them at an economic disadvantage to Canadian lobster suppliers in both domestic and international markets. The recent Mitchell Amendment to the Magnuson Fishery Conservation and Management Act prohibits the shipment, transport, offer for sale, sale or purchase, in interstate or foreign commerce, of any whole live lobster smaller than the Federal minimum size. This law, however, did not satisfy the concerns of lobstermen or lobster dealers. U.S. lobstermen still felt disadvantaged on international markets which they saw as favoring smaller Canadian lobsters that commanded a lower price. Dealers alleged a loss of customers to Canadian suppliers who began to ship cheaper, illegal lobsters directly to markets throughout the U.S.

On several occasions, the Council declined industry requests to postpone further size increases and reaffirmed its position to continue with the schedule of size increases to achieve its conservation objectives. By the end of 1990, however, it was apparent that the principal lobster producing states of Maine and Massachusetts no longer supported increases beyond 3-1/4 inches within the time frame set forth in Amendment 2. By the middle of 1991 all lobster producing states had changed their statutes or regulations governing the minimum size so that further increases in their size limit are unlikely. These recent actions by the states have created a difference between state and Federal size limits, which is further exacerbated by a difference in Canadian size limits. Therefore the Council is proposing to decrease the size limit to 3-1/4 inches.

The Council also proposes to develop a comprehensive amendment to the plan as reflected in the following motion passed at its May 16, 1991 meeting:

"That the Council approve the development of an amendment to the Lobster Management Plan which would comprehensively address management throughout the range of the resource. To initiate the amendment development process, the Council shall request that the U.S. lobster industry provide the Council with consensus position as to what conservation and management measures it wants to see incorporated into this amendment. Said industry response shall be provided to the Council as soon as possible, but no longer than six months after the date of implementation of the fast track amendment (Amendment 4). The Council shall authorize the Working Group to Define Overfishing to continue to develop the overfishing definition and the SAW (Stock Assessment Workshop) to describe the status of the entire U.S. lobster resource. If the U.S. lobster industry cannot develop a consensus position with regard to management of the lobster resource, the Lobster Oversight Committee shall evaluate the feasibility of developing an amendment for the EEZ and consenting state waters and report it's recommendations to the Council within one year of the date of implementation of the fast track amendment (Amendment 4)."

II. PURPOSE AND NEED FOR ACTION

The primary objective of the American Lobster FMP is to promote a unified regional management program for the American lobster resource throughout its range. American lobsters range in inshore waters from Labrador to Virginia. In offshore waters, they range from Georges Bank to North Carolina. In the United States, the majority of the resource resides in state waters.

The purpose of this action is to restore uniformity among the Federal and state size limits by decreasing the Federal size limit to match those of the major lobster producing states. Maine, Massachusetts, and Rhode Island have reduced their size limits to 3-1/4 inches. New Hampshire's size limit is currently 3-1/4 inches, and it does not anticipate further increases. Connecticut and New York adopted a schedule of increases similar to the Federal schedule with at least a one year lag and are currently at 3-1/4 inches as well. Canadian minimum sizes vary from 2-1/2 inches to 3-3/16 inches, depending on the area.

If the Federal minimum size is not reduced, there will be some major problems. First, as mentioned previously, the Mitchell Amendment to the Magnuson Act prohibits the shipment, transport offer for sale, sale or purchase, in interstate or foreign commerce, of any whole live lobster smaller than the Federal minimum size. This amendment has the effect of banning the interstate transport or export of lobsters harvested legally in state waters, and which are smaller than the Federal minimum size. This further complicates the enforcement problem and raises the issue of Federal preemption of a resource that resides primarily in state waters.

An estimated 5 to 7 percent of lobster landings from the inshore fishery which extends into Federal waters would not meet the Federal standards. (Estimates of impacts for the whole of the EEZ are not available.) Based on average landings of 45.8 million pounds from state waters in 1988 through 1990, about 2.3 to 3.2 million pounds of lobster with a dockside value of about 6.1 to 8.6 million dollars would be included in this category. The inability to sell these lobsters, including those that can be legally harvested under state regulations, in interstate or international commerce would impose a significant economic hardship on lobstermen, dealers and distributors.

Second, the failure to establish a size limit that is consistent in state and Federal waters significantly weakens the enforcement of the Federal minimum carapace length regulation for lobsters between 3-1/4 inches and the Federal minimum size. Most lobstermen who fish in state waters also take lobsters from the EEZ. Lobsters are landed in hundreds of small ports along more than 6,000 miles of coastline in the northeast. Since the lobster-producing states contribute to the enforcement of the size limit, there would be little incentive for state agencies to enforce standards that are not consistent with their own regulations.

Third, the difference in the minimum sizes between state and Federal waters might create an incentive for vessels to give up their Federal permits and fish exclusively in state waters. This will force more effort inshore on the portion of the resource which is already experiencing extremely high exploitation rates.

Fourth, if Federal and state size requirement were not consistent, lobster dealers would be forced to sort their lobsters into an additional category to separate lobsters that can be sold in interstate or international commerce from those not meeting Federal standards. Many of the lobsters in these two groups differ by an almost imperceptible 1/32 inch difference in carapace length or a live-weight difference of less than one ounce.

Finally, the Council has published in the *Federal Register* a control date that might limit access to the EEZ lobster fishery. The possibility of limited access to this resource has created great uncertainty among lobstermen who are trying to decide whether to retain their Federal permit or endorsement on their state licenses and be subject to a more restrictive Federal minimum size requirement. If they give up their Federal permits they may lose some future access privileges to lobsters in the EEZ.

III. ALTERNATIVES

A. Alternative 1 (Preferred alternative) - Rollback minimum size to 3-1/4 inches, delay minimum size increases for a definite period and modify the size of the escape vent

- 1) Reduce the minimum carapace size (currently 3-9/32 inches since January 1, 1991, as specified in Amendment 2 to the American Lobster FMP) for American lobster caught in the U.S. Exclusive Economic Zone (EEZ) to 3-1/4 inches to conform to the size that is currently required in the major lobster-producing states such as Maine, Massachusetts and Rhode Island. Additionally, further increases in the minimum size would be delayed until two years after the implementation of this amendment, unless the Council has developed a comprehensive amendment to the FMP which further addresses management strategies for the American lobster throughout its range with an emphasis on alleviating any overfishing.

If, within two years of the implementation of this amendment, the Council has not submitted a comprehensive amendment, the increases in the minimum carapace length proposed in Amendment 2 would resume. In accordance with Amendment 3, the minimum dimensions of the escape vent also would increase to be consistent with a 3-5/16 inch minimum carapace length.

- 2) Modify the minimum dimensions of the escape vent to provide optimum escapement of smaller than legal-size ("sublegal") lobsters consistent with a 3-1/4 inch minimum carapace size. For rectangular escape vents the opening must be not less than 1-7/8 inches high by 6 inches wide. For circular vents, traps must contain two openings not less than 2-3/8 inches in diameter.

Rationale: The rationale for this proposal is provided in the section "Purpose and Need for Action" and is not repeated here. Additionally, based on the Council's experience in developing the original lobster FMP and management plans for scallops and groundfish, it is unrealistic for the Council to develop a comprehensive alternative to the current lobster FMP within the next year, yet it is possible to develop one within the next two years. Developing a comprehensive lobster FMP is further complicated by the need for consistency in Federal and state lobster size regulations. Currently there is no consensus among the states about how lobsters should be managed.

The current size requirements for lobster trap escape vents (1-3/4 by 6 inches for rectangular vents and 2-1/4 inches for circular vents) were intended to provide the maximum escapement of sublegal lobsters consistent with 100% retention of legal lobsters when the minimum size was 3-3/16 inches. Amendment 3 anticipated that the optimum vent size would be 1-15/16 inches if the minimum size were increased to 3-5/16 inches in 1992. Under the preferred alternative, however, the minimum size would be 3-1/4 inches and neither the current 1-3/4 inch nor the 1-15/16 inch (proposed under Amendment 3) rectangular vents would provide the optimum retention/escapement levels based on the criteria established in Amendment 3.

To meet the criteria used to establish the vent size under Amendment 3, which was the maximum escapement of sublegal lobsters with nearly 100% retention of legal lobsters, the rectangular vent size should be changed to 1-7/8 by 6 inches (Figure 1). The corresponding circular vent would be 2-3/8 inches in diameter (Figure 2).

B. Alternative 2 - No action

Take no action at this time and require lobstermen who hold a Federal permit to land only lobsters 3-9/32 inches or larger for the remainder of this year and to land lobsters 3-5/16 inches or larger as of January 1, 1992. As of January 1, 1992, lobstermen also would be required to use rectangular escape vents not less than 1-15/16 inches high by 6 inches wide or two circular vents not less than 2-7/16 inches in diameter.

This alternative directly conflicts with the FMP objective to promote a unified regional management program, creates a substantial enforcement burden, causes confusion in the lobster industry and might force fishing effort inshore where exploitation rates probably exceed those in the offshore EEZ fishery.

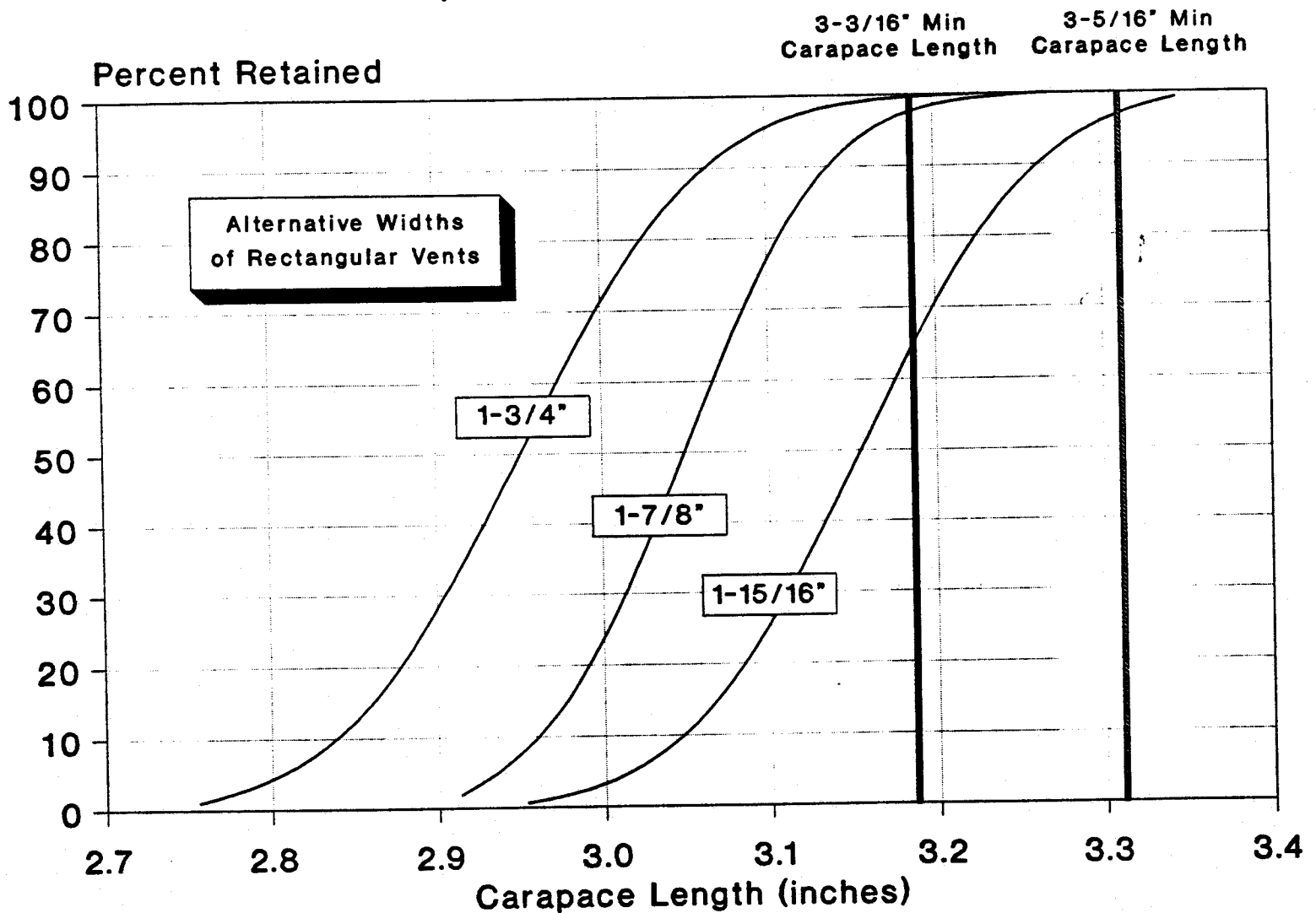
C. Alternative 3 - Delay size increases indefinitely and rollback the minimum size to 3-1/4 inches

- 1) Under this alternative the Council would simply reduce the minimum carapace size (currently 3-9/32 inches since January 1, 1991), as specified in Amendment 2 to the American Lobster FMP for American lobster caught in the U.S. EEZ to 3-1/4 inches to conform to the size that is currently required in the major lobster-producing states.
- 2) There would not be an automatic re-implementation of the remaining two minimum size increases if the Council failed to take further action to protect the resource by amending the FMP.

The Council has rejected this alternative because it does not provide a framework for taking further action to protect a resource that is very heavily exploited.

Figure 1

AMERICAN LOBSTER Escape Vent Selection Curves



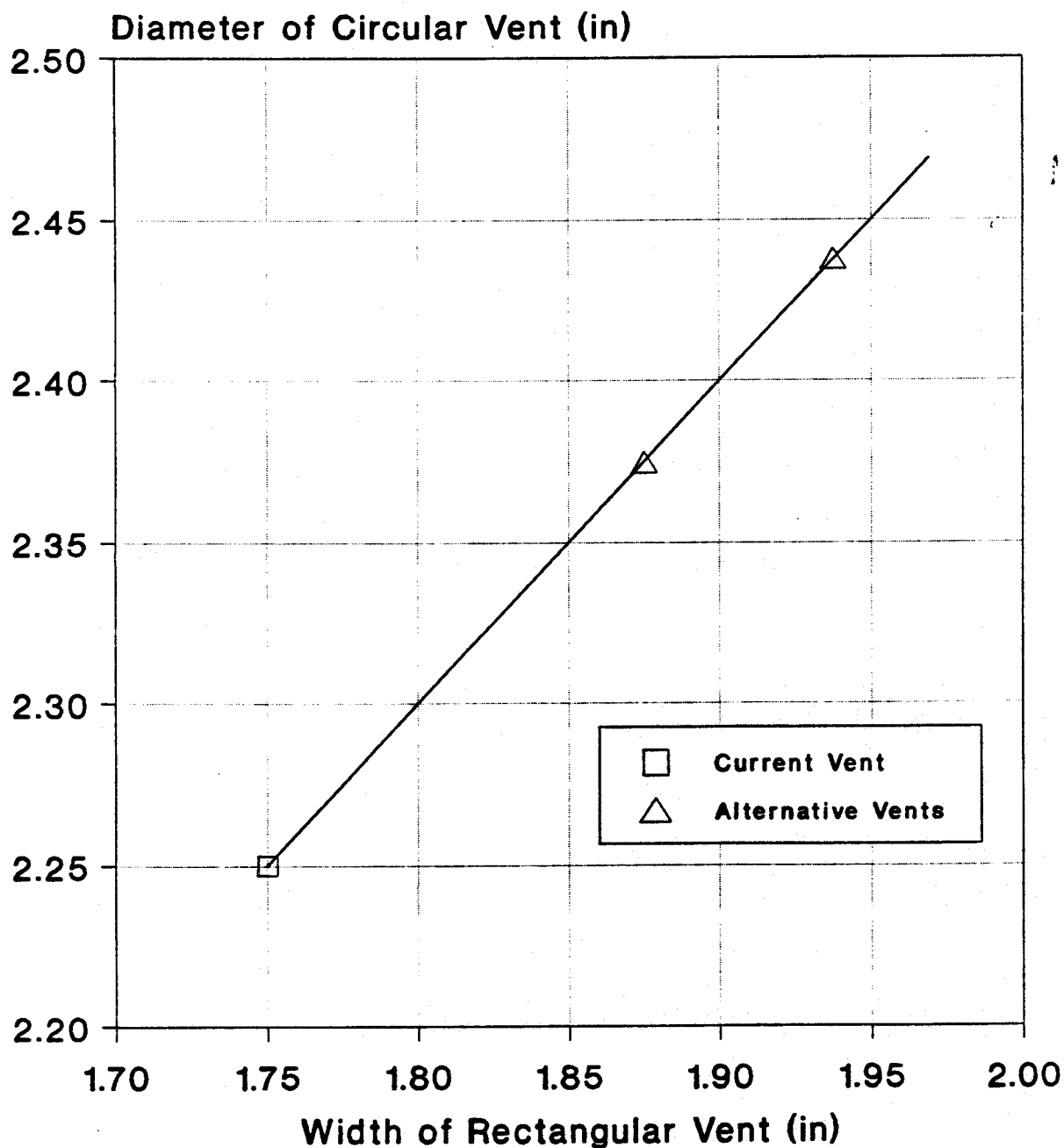
Curves based on data from Nulk (1978)

Figure 2

LOBSTER TRAP ESCAPE VENTS

Rectangular vs. Circular

Equal Lobster Retention Characteristics



IV. ESTIMATED IMPACTS

A. Environmental Impacts

The analysis of impacts is conducted with specific reference to the guidance presented in NOAA Directives Manual 02-10 (13)(b) regarding the determination of environmental significance. Section 13(b) presents five criteria against which the proposed action and any alternative should be evaluated.

1. **Will the proposed action be reasonably expected to jeopardize the long-term productive capability of the resource?**
 - a. **Alternative 1 - Preferred alternative:** This alternative is not expected to jeopardize the long-term productive capability of the American lobster resource. Under this alternative, two of the four scheduled carapace length increases will have been implemented. The Council's original schedule called for four increases to be implemented over a five year period. The five year schedule of increases was not based on biological information, but on the objective of minimizing the economic impact of the increases on the industry and the market. The biological basis for the minimum size increases is to enhance the reproductive potential of the lobster resource. The biological impact of this alternative cannot be estimated, however, because the relationship between egg production and recruitment is not well understood, but it is expected to be minimal.
 - b. **Alternative 2 - No action:** The no-action alternative is not expected to jeopardize the long-term productive capability of the American lobster resource.
 - c. **Alternative 3 - Delay size increases indefinitely and rollback the minimum size to 3-1/4 inches:** This alternative eliminates the conservation benefit provided by the final two increases in the minimum size proposed under Amendment 2 and does not provide a framework for taking any further action to protect a resource that is very heavily exploited and could jeopardize the long-term productive capability of the resource.
2. **Will the proposed action be reasonably expected to allow substantial damage to the ocean and coastal habitats?** None of the alternatives are expected to damage ocean or coastal habitats.
3. **Will the proposed action be reasonably expected to have a substantial adverse impact on public health or safety?** None of the alternatives are expected to have an adverse impact on public health or safety.
4. **Will the proposed action be reasonably expected to adversely affect an endangered or threatened species or marine mammal population?** None of the alternatives are expected to have an adverse affect on endangered or threatened species or marine mammal populations.
5. **Will the proposed action be reasonably expected to result in cumulative adverse effects that could have a substantial effect on the target resource species or any related stocks that may be affected by the action?** None of the alternatives are expected to result in cumulative adverse effects.

IV. ESTIMATED IMPACTS *(continued)*

B. Economic Impacts

1. **Alternative 1 - Part 1** (Rollback minimum size to 3-1/4 inches; delay minimum size increases for a definite period)

Benefits: Part 1 of the preferred alternative has a number of benefits which have been described in the section "Purpose and Need for Action" (p. 3). In summary, it will: (1) prevent disruption of U.S. lobster supply in interstate and international trade; (2) reduce the cost and burden of enforcement; (3) prevent disruptions in harvesting patterns associated with a shift in fishing effort to state waters; (4) eliminate the costs to the industry associated with interstate trade restrictions implemented by the Mitchell Amendment including increased handling and sorting costs; (5) eliminate economic dislocation that possibly could be caused the combination of a moratorium on entry to the EEZ lobster fishery and by a loss of future EEZ access rights by lobstermen who might give up their Federal permits to fish under less restrictive state size regulations; (5) allow the Council, together with the lobster-producing states and Canada, to begin work on a cooperative management program; (6) give the lobster market the opportunity to adjust to previous size increases; and (7) reduce lobster harvesting and handling costs by increasing the size of the escape vent. The impacts associated with the effects of the reduction in the minimum size and the delay in further size increases are unquantifiable due to a lack of detailed data and appropriate econometric models but are expected to be positive.

As noted in an earlier section of this document, an estimated 5 to 7 percent of lobster landings from the inshore fishery do not meet the current Federal standards. Estimates of impacts for the whole of the EEZ are not available. Based on average landings of 45.8 million pounds from state waters in 1988 through 1990, the inability to sell these lobsters, including those that can be legally harvested under state regulations, in interstate or international commerce would impose a significant economic hardship on lobstermen, dealers and distributors. Although larger lobsters can be substituted, those not meeting Federal standards must be sold on local markets at an often steep discount especially in light of the downward trend in lobster prices in the past year. There has been a drop in the real (constant 1990 dollars) ex-vessel price for lobster from \$2.73 in 1988 to \$2.62 in 1989 and to \$2.43 in 1990.

Costs: The preferred alternative could increase economic costs in two ways. First, by delaying increases in egg production projected under Amendment 2, it could reduce future yields until the Council implements management measures comparable to the final two size increases. Because some percentage of female lobsters, larger than 3/14 inches and smaller than 3-9/32 inches, may have spawned prior to being harvested at the larger minimum size, this alternative potentially reduces total egg production. There are, however, no available estimates of the number of lobsters which might be affected or of the size of the reduction in egg production. Further, little information is available on the effect of egg production on recruitment and, therefore, on the impact that a reduction in egg production may have on recruitment. If there is a direct effect, then the economic costs of this measure would include a reduction in landings caused by a decrease in egg production and recruitment resulting from the delay.

IV. ESTIMATED IMPACTS *(continued)*

B. Economic Impacts *(continued)*

Alternative 1 - Part 1 *(continued)*

Second, there are economic costs (foregone benefits) caused by a reduction in yield associated with harvesting lobsters at a smaller size. Decreasing the minimum size will increase landings in the near term but will decrease landings in the long term. Additionally, the initial increase in landing may depress prices even further in the short term, possibly offsetting any short-term gains from increased landings. This alternative would delay the realization of the benefits of the final two size increases called for by Amendment 2.

The analysis of costs and benefits in Amendment 2 estimated that using a 10% discount rate, there would be a 10.6% increase in ex-vessel revenues over a 20 year time period using the best case estimate (ie., with recruitment effects) and a -0.4% decrease using the worst case estimate (no recruitment) effects. The projected impacts for 1991 were a decrease in ex-vessel revenues of about 5% or 7.7 million dollars based on 1990 revenues of 149.6 million dollars from the U.S. lobster resource.

These estimates did not include possible increases in ex-vessel revenue caused by an increase in the proportion of large lobsters in the catch. Assuming a constant level of fishing pressure, an increase in the gauge size would tend to shift the size distribution of lobsters towards the larger sizes. Larger lobsters typically carry a higher price per pound than smaller ones and it is likely, all other things being equal, that there would have been a very small increase in ex-vessel prices owing to an increase in the proportion of large lobsters in the catch. The remaining increases in the gauge size are small enough, however, that there would be an insignificant change in the weight of lobsters in the smallest market category, "chix", consisting of lobsters less than one pound.

The estimate of benefits from the original schedule of size increases also assumed that Federal and state minimum size regulations would be the same. About 85 percent of the benefits from further increases in the gauge size were attributable to impacts of the lobster resource in state waters. In other words, 85 percent of the projected gross benefits can no longer be realized because of the current differences among state and Federal minimum size regulations.

Alternative 1 - Part 2 (Modify the size of the escape vent)

To retain the present level of efficiency of lobster gear, the almost 100% retention level of legal size lobsters must be kept. The proposed 1-7/8 inch vent would provide this level of retention while allowing about 4 to 5 percent of 3-3/16 inch lobsters to escape. This additional escapement would: (1) reduce mortality caused by capture, handling or release of these lobsters; (2) improve the fishing efficiency of lobster traps (Fogarty & Borden, 1980); (3) reduce at-sea labor costs by reducing the culling and releasing small lobsters; and (4) reduce the probability that sublegal or "short" lobsters mistakenly would be kept by lobstermen who failed to accurately measure them.

IV. ESTIMATED IMPACTS *(continued)*

B. Economic Impacts *(continued)*

Alternative 1 - Part 2 *(continued)*

The costs and benefits associated with this measure would be insignificant because they would be essentially the same as for the increase in escape vents that would be implemented under Amendment 3 (the status quo). The 1-7/8 inch width for rectangular openings and the 2-3/8 inch diameter for circular vents would provide the nearly same level of retention of legal lobsters and escapement of "sublegal" lobsters under the 3-1/4 inch minimum size as the 1-15/16 inch width rectangular opening would for a 3-5/16 inch minimum size. Many lobstermen already use a 1-7/8 inch or even a 1-15/16 inch rectangular vent and some larger manufacturers almost exclusively install the larger vents in new traps.

2. Alternative 2 - No action

Benefits: With the information currently available, it is not possible to estimate the actual impacts of the size increases that have been implemented under Amendment 2. The economic projections included in Amendment 2 have not been accurate because of a strong, underlying trend of increased landings partly due to environmental causes and a probable, strong downward shift in the demand for American lobster due to a weakened economy in the Northeastern U.S.

The proposed schedule of minimum size increases was expected to decrease landings during the first five years after implementation on January 1, 1988 and to cause a corresponding decrease in ex-vessel revenues. By the sixth year, 1994, ex-vessel revenues were expected to increase because of an increase in landings caused by the minimum size increase. However, landings have increased by 18% from an average of 46 million pounds in 1985 through 1987 to an average of 54 million pounds in 1988 through 1990. It is not understood whether or how much the increases in the gauge size contributed to increased landings through a possible increase in yield per recruit. The effects of the gauge size increases cannot be measured because they are too small compared to other causes of variation in landings.

Costs: The lobster industry is currently experiencing unusually low ex-vessel prices. Because lobsters are priced and sold by size (weight), the minimum size increases may be a factor. Information on the economics of the lobster industry is severely lacking. The Council is currently sponsoring a major study of the lobster industry and markets. This study is expected to answer many of the issues raised in recent years and will be useful in guiding the Council in future management of this resource.

The lobster industry contends that as a direct result of the minimum size increases it has difficulty in competing in foreign markets which prefer small lobsters. If U.S. exports of lobster have been adversely affected by the size increases, then further increases would make this situation worse. It is not known, however, to what extent exports have been affected by the size increases.

IV. ESTIMATED IMPACTS *(continued)***B. Economic Impacts** *(continued)***Alternative 2** *(continued)*

Under this alternative, an estimated 5 to 7 percent of lobster landings from the inshore fishery which extends into Federal waters would not meet the Federal standards (Krouse, personal communication). Estimates of impacts for the whole of the EEZ are not available. Based on average landings of 45.8 million pounds from state waters in 1988 through 1990, about 2.3 to 3.2 million pounds of lobster with a dockside value of about 6.1 to 8.6 million dollars would be included in this category. The inability to sell these lobsters, including those that can be legally harvested under state regulations, in interstate or international commerce would impose a significant economic hardship on lobstermen, dealers and distributors.

3. Alternative 3 - Delay size increases indefinitely and rollback the minimum size to 3-1/4 inches

Benefits: The short-term benefits of this alternative would be the same as those for Part 1 of the preferred alternative, however, this alternative would postpone the economic benefits created by further improvements in coast-wide lobster management.

Costs: Scientists have advised the Council that the lobster resource is very heavily exploited and that the continued economic health of the lobster industry depends on the strength of only a few year classes of recruiting lobsters. Under the favorable environmental conditions of the past decade, recruitment and resulting landings have been very high, however, a change in environmental conditions could cause economic hardship that could be mitigated by improved management. This alternative eliminates the long-term economic benefits increases in yield per recruit and egg production attributable to the final two size increases called for in Amendment 2.

IV. ESTIMATED IMPACTS *(continued)***C. Administrative and Enforcement Considerations:****Alternative 1 - Preferred alternative**

The preferred alternative would reduce the current burden of administering and enforcing a Federal minimum size regulation that differs from those of the major lobster producing states because there is likely to be greater compliance with a less restrictive size regulation and because it is simply cheaper to enforce one set of size and vent regulations than it is to enforce two of them. It is impossible to quantify the cost of enforcing different minimum sizes because state and Federal enforcement agencies do not keep track of the amount or cost of effort they expend on enforcing lobster regulations or on compliance levels.

The change in the size of the escape vent is expected impose a minimal administrative burden, that of publishing and promulgating the regulation. It is not expected to either increase or decrease the existing enforcement burden because it merely changes the specification of existing vent regulations and does not create a new type of regulation.

Alternative 2 - No action

The failure to establish a size limit that is consistent in state and Federal waters significantly weakens the enforcement of the Federal minimum carapace length regulation for lobsters between 3-1/4 inches and 3-9/32 to 3-5/16 inches caught by lobstermen holding Federal permits. Most lobstermen who fish in state waters also take lobsters from the EEZ. Lobsters are landed in hundreds of small ports along more than 6,000 miles of coastline in the northeast. Since the lobster-producing states contribute to the enforcement of the size limit, there would be little incentive for state enforcement agents to enforce standards that are not consistent with the regulations of their own state.

Alternative 3 - Delay size increases indefinitely and rollback the minimum size to 3-1/4 inches

Without an incentive for an alternative to reimposing of the scheduled gauge increases, regional differences probably would hinder cooperative lobster management among the lobster-producing states.

V. OTHER FMP REQUIREMENTS

A. Regulatory Impact Review

1. Summary of benefits and costs

Benefits: The proposed measure will prevent disruption of U.S. lobster supply in interstate and international trade that are described under "Economic considerations" for the preferred alternative. The benefits include avoiding the forced dumping of an estimated 2.3 to 3.2 million pounds of lobster with a dockside value of about 6.1 to 8.6 million dollars on local markets, the imposition on fishermen and lobster dealers of additional handling and sorting costs and the costs associated with enforcing a Federal minimum size regulation different from that enforced by the major lobster-producing states. These benefits are not quantifiable due to the lack of data on wholesale and retail prices for lobsters weighing less than one pound and because the lack of econometric models for local lobster markets.

Costs: The costs associated with the preferred alternative are the economic costs (foregone benefits) of delaying the size increases proposed in Amendment 2. Delaying the implementation of further increases in the minimum size will delay the long-term benefits associated with these increases. The projected benefits of these size increases, however, have been greatly reduced by the failure of the states to maintain the schedule of increases proposed in Amendment 2. Other than the delay in future benefits, there are no costs associated with the proposed measure because it allows the current regulations to remain unchanged for the next two years or until the FMP is again amended.

Benefit-Cost Conclusion: This measure postpones further increases in the minimum size for American lobster until two years after implementation of this amendment or until the New England Fishery Management Council submits a "comprehensive" amendment for American lobster that addresses a wider range of considerations. In so doing, it prevents market dislocations, regulatory burdens and increased administration and enforcement costs caused by differences in Federal and state minimum size regulations. Because the costs of adopting this action are only a delay in projected benefits of further gauge size increases, which would be greatly reduced by the failure to implement them in state waters, and because the benefits can be identified but not quantified, this action is expected to have positive net benefits to the lobster harvesting, wholesaling and support industries.

The costs and benefits associated with the modification to the escape vent size would be insignificant because they would be essentially the same as for the increase in escape vents that would be implemented under Amendment 3 (the status quo). The 1-7/8 inch width for rectangular openings and the 2-3/8 inch diameter for circular vents would provide the nearly same level of retention of legal lobsters and escapement of "sublegal" lobsters under the 3-1/4 inch minimum size as the 1-15/16 inch width rectangular opening would for a 3-5/16 inch minimum size.

2. Other E.O. 12291 Requirements:

E.O. 12291 requires that the following three issues be considered:

- a. **Will the amendment have an annual effect on the economy of \$100 million or more?**
The amendment impacts the minimum size and distribution of about distribution of an estimated 2.3 to 3.2 million pounds of lobster with a dockside value of about 6.1 to 8.6 million dollars. It therefore will not have an annual effect on the economy of \$100 million or more.

V. OTHER FMP REQUIREMENTS *(continued)***A. Regulatory Impact Analysis** *(continued)***2. Other E.O. 12291 Requirements:** *(continued)*

- b. Will the amendment lead to an increase in the costs or prices for consumers, individual industries, Federal, State, or local government agencies or geographic regions? By preventing disruptions in the traditional lobster supply and distribution systems, this amendment will prevent increases in the costs for consumers, individual industries, Federal, State, or local government agencies.
- c. Will the amendment have significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of US based enterprises to compete with foreign based enterprises in domestic or export markets? The amendment will allow a greater share of the U.S. harvest of American lobster to be sold in interstate and international markets. Without this amendment, the supply of American lobster to these markets would be decreased by differences between Federal and state minimum carapace standards.

For the above reasons, the proposed action does not constitute a "major rule" requiring a regulatory impact analysis under E.O. 12291.

B. Impacts of the amendment relative to the Regulatory Flexibility Act and the Paperwork Reduction Act of 1980:

The proposed action is not expected to have a significant effect on small entities in relation to the Regulatory Flexibility Act. This amendment would provide regulatory relief to an estimated 86 offshore lobster vessels employing about 302 persons and to about 9,000 inshore lobster boats and vessels which fish primarily in state waters (*Status of the Fishery Resource Off the Northeastern United States for 1990*). Although not all lobstermen will be affected in the same way, the proposed amendment is expected to provide benefits to lobstermen in all areas.

There will be no new paperwork or record-keeping requirements under the proposed management program.

C. Consistency with National Standards and Other Management Programs

- 1. Conservation and management measures shall prevent overfishing while achieving, on a continuous basis, the optimum yield from each fishery.

Fishing mortality rates in the US lobster fishery have remained at high levels for a substantial period of time. However, the information necessary to make a determination concerning recruitment overfishing is currently unavailable. The amended management program can be expected to marginally increase juvenile fishing mortality relative to the no-action alternative, but the time delay should not significantly affect attainment of the Lobster FMP objectives.

V. OTHER FMP REQUIREMENTS *(continued)***C. Consistency with National Standards and Other Management Programs** *(continued)*

2. Conservation and management measures shall be based upon the best scientific information available.

This amendment is based upon the best and most recent scientific information available to the Council. Further, expert industry advice has been carefully considered in developing and analyzing the alternatives considered.

3. To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.

Since most U.S. landings of American lobster are from state waters, the Council's role in lobster management is to coordinate cooperative effort among individual states as well as to manage American lobster in the EEZ. The proposed measures are expected to enhance the cooperative management of lobster by all the states involved.

4. Conservation and management measures shall not discriminate between residents of different States. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote conservation; and (C) carried out in such a manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

The proposed measures do not discriminate between residents of different states and do not allocate the lobster resource among competing fishermen.

5. Conservation and management measures shall, where practicable, promote efficiency in the utilization of the fishery resources; except that no such measure shall have economic allocation as its sole purpose.

The recommended management measures are expected to result in more efficient utilization of the American lobster resource by promoting consistency in lobster management without imposing any net costs on the lobster fishing industry. None of the recommended measures have economic allocation as their sole purpose.

6. Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.

The proposed measures will have no impact on fishery managers or the public with respect to flexibility in responding to variations among, and contingencies in, fisheries, fishery resources, and catches.

7. Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

The proposed measures are expected to increase the efficiency of the total enforcement effort and do not duplicate other management efforts or measures.

V. OTHER FMP REQUIREMENTS *(continued)*

D. Miscellaneous Requirements

Vessel Safety

The proposed actions do not impose requirements for the use of unsafe (or other) gear nor do they direct fishing effort to periods of unsafe weather conditions.

Federalism

The proposed action does not contain policies with federalism implications sufficient to warrant preparation of a federalism assessment under E.O. 12612.

Effect on Flood Plains or Wetlands

The proposed action will not affect flood plains, wetlands, trails or rivers that are listed or eligible for listing on the National Trails and Nationwide Inventory of Rivers.

Effect on Protected Species

The proposed action does not affect any protected species

State Laws and Other Regulations and Policies

Although each of the lobster producing states historically has managed its lobster fishery independently of the others, the need for comparable management programs has long been recognized. Through the American Lobster FMP and the Council process, coordination of management activity has improved throughout the range of the lobster resource. A synopsis of the important state lobster regulations appears in Table 1. It is noted that all states have adopted regulations that are compatible with this amendment.

The management measures proposed in this amendment do not change the relationship between the Federal management program for American lobster and other state and Federal laws and statutes that affect the American lobster resource. Nothing in this Amendment will change the relationship discussed in Section 226 of the American Lobster FMP concerning marine mammals and endangered species. Finally, the Assistant Administrator has determined that this amendment will be implemented in a manner consistent with the approved coastal zone management programs of the affected states. This determination has been submitted for review by the responsible state agencies under section 307 of the Coastal Zone Management Act.

V. OTHER FMP REQUIREMENTS *(continued)*

E. Finding of No Significant Environmental Impact

In view of the analysis presented in this document, I have determined that the proposed action in this amendment to the American Lobster Fishery Management Plan will not significantly affect the quality of the human environment with specific reference to the criteria contained in NDM 02-10 implementing the National Environmental Policy Act. Accordingly, the preparation of a supplemental Environmental Impact Statement for this proposed action is not necessary.

Assistant Administrator
for Fisheries, NOAA

Date

Table 1. Lobster Regulations by State

	ME	NH	MA	RI	CT	NY	NJ	DE	MD	VA	NC
Degradable Escape Panel (Time Release Mechanism)	*	X			X	*					
License Requirements											
none required									X		X
required to fish lobster	X	X	X	X	X	X	X	X		X	
required to land lobster	X	X	X	X	X					X	
required to deal lobster	X	X	X	X	X						
Legal Provisions for Aquaculture Enterprises X	X	X	X	X	X	X					
Fishermen Classification											
none									X	X	X
commercial X	X	X	X	X	X	X	X				
recreational	X	X	X	X	X		X				
Catch/Effort Reporting											
not required						X		X	X	X	
annual reporting	X	X	X	X	X	X		X			
daily reporting					X						
Gear Regulations											
by license class		X	X	X	X	X				X	
quantity		X	X			X		X		X	
type	X	X	X		X	X		X			
owner I.D. required	X	X	X	X	X	X		X			
escape vents required	X	X	X	X	X	*	X	X	X		X
Fishing Regulations											
by license class or method			X	X		X		X			
number of licenses			X								
catch quotas					X	X		X			
area	X	X	X			X					
season	X		X					X			
day or time of day	X	X	X	X	X	X		X			
prohibited activity											
landing berried females	X	X	X	X	X	X	X	X	X	X	X
landing V-notch lobster	X		X								
landing lobster parts	X	X	X	X	X	X		X	X	X	X
regulated activity											
landing lobster meat	X	X	X	X	X	X		X	X	X	X
landing lobster parts							X				
minimum size of 3-1/4"	X	X	X	X	X	X	*	*	*	*	*
maximum size of 5"	X										

X Implemented or approved
* Under consideration

VI. AMENDATORY LANGUAGE

A. Changes in Consequence of Proposed Action

A. Changes in Consequence of Proposed Action

The Council proposes to amend the language contained in Part 5 of the American Lobster FMP as follows (references are to existing sections in the FMP and changes are specified in boldface). This document supplements the discussion and analysis of alternatives contained in Part 4 of the FMP.

§505 Minimum Size

The first paragraph and table describing the schedule of minimum size increases would be replaced with the following paragraph:

The minimum legal carapace length for American lobsters will be 3-1/4 inches. However, if within two years of the implementation of this Amendment 4, the Council has not submitted a comprehensive amendment which further addresses management strategies for the American lobster throughout its range with an emphasis on alleviating any overfishing, the increases in the minimum carapace length proposed in Amendment 2 would resume. In accordance with Amendment 3, the minimum dimensions of the escape vent also would increase to be consistent with a 3-5/16 inch minimum carapace length.

§508 Escape Vents and Panels

Beginning January 1, 1992, all lobster traps must contain one of the following: (1) a rectangular escape vent with an unobstructed opening not less than 1-7/8 inches (47.6 mm) by 6 inches (152.5 mm); (2) two circular escape vents with unobstructed openings not less than 2-3/8 inches (60.3 mm) in diameter; or (3) any other type of escape vent which the Regional Director finds to be consistent with (1) or (2) above. All lobster traps and buoys must be marked with the vessel's Official Number, or, if the vessel is licensed under a State program that is approved by the Regional Director in lieu of a federal permit under §649.4(a), the State license number.

VII. LIST OF AGENCIES AND PERSONS CONSULTED

A. Federal Agencies:

Department of Commerce
National Marine Fisheries Service
Department of State
U.S. Coast Guard
Department of Interior
Fish and Wildlife Service
Mid-Atlantic Fishery Management Council
South Atlantic Fishery Management Council
Atlantic States Marine Fisheries Commission

B. State Agencies:

Maine Department of Marine Resources
Maine State Planning Office
New Hampshire Dept. of Fish and Game
Massachusetts Division of Marine Fisheries
Massachusetts Office of Coastal Zone Management
Rhode Island Dept. of Environmental Management
Rhode Island Statewide Planning Program
Connecticut Dept. of Environmental Protection
New York Division of Marine and Coastal Resources
New Jersey Division of Fish, Game and Shellfisheries
Pennsylvania Fish Commission
Maryland Department of Natural Resources
Virginia Marine Resources Commission
Delaware Division of Fish and Wildlife
North Carolina Division of Commercial and Sport Fisheries

C. Individuals:

William Adler
Edward Blackmore
David Dow
Patten White

VIII. LIST OF PREPARERS FOR ENVIRONMENTAL ASSESSMENT AND PLAN AMENDMENT

This Amendment to the American Lobster Fishery Management Plan (FMP) was prepared by a team of fishery managers and scientists with special expertise in the American lobster resource.

Lobster Oversight Committee

Philip Coates, Chairman
William Brennan, Vice-Chairman
Richard Allen
David Borden
Herbert Drake

Assisting the Committee

Andrew Applegate
Christopher Kellogg
Douglas Marshall
Howard Russell

APPENDIX A

Proposed Definition of Overfishing for American Lobster

All FMPs are expected to include definitions of overfishing which the Secretary of Commerce may evaluate in reference to CFR 50 §602 Guidelines for Fishery Management Plans. Because this is the first amendment to the American Lobster FMP prepared by the Council since publication of the §602 Final Rule on July 24, 1989, the Council has proposed the following preliminary definition of overfishing for American lobster, passed as a Council motion on May 16, 1991.

"The American lobster resource is considered to be overfished when, based on information concerning the status of the resource throughout its range, it is harvested at a fishing mortality rate (F) and minimum size combination that results in a calculated egg production per recruit of less than 10% of a non-fished population."

The proposed definition of overfishing for American lobster is based on an egg production per recruit analysis (Fogarty and Idoine, 1988). This approach incorporates a growth model, based on molt increment and molt frequency, natural mortality and a fecundity schedule for female lobsters. Egg production per recruit, an equivalent of spawning stock biomass per recruit, is calculated for a range of fishing mortality rates and minimum landing sizes for a group of female lobsters (the recruits). Berried and sub-legal females are "protected" from fishing mortality in this evaluation. Egg production per recruit, then, is the total number of eggs produced throughout the run divided by the number of recruits.

For some groundfish stocks, the replacement levels of recruitment (F_{rep}) occur at about 20% of maximum spawning stock biomass per recruit. Lobsters, which exhibit different life histories (e.g., greater proportional survival of young), probably exhibit stock replacement at lower levels of percent-of-maximum reproductive potential than do most finfish. Evidence of this is the persistence of lobster populations over the last several decades subject to very high exploitation rates while at very low percentage of maximum spawning potential levels. The current level of egg production per recruit (for offshore lobster stocks) is estimated to be around 5 to 6% of the maximum (Idoine, personal communication).

Lobster landings have increased significantly during this period despite very low average reproductive potential. This, however, is probably due to highly favorable environmental conditions during the last decade. Evidence for the influence of favorable environmental conditions in recent years of good lobster recruitment include: (1) a general trend of increased landings that is consistent throughout North American waters (i.e., Southern New England, Gulf of Maine, Canadian Maritimes); and (2) the persistence of increased landings despite a wide of range exploitation rates and a variety fishing regimes.

A preliminary level of maximum egg production per recruit of 10% was chosen as an overfishing definition goal to account for average long-term conditions. This value may be modified in light of further evidence and analyses, but at this time it seems to be a reasonable long-term reference point. More precise information with which to evaluate the proposed 10% maximum egg production reference point probably will be available in the near future.

Despite the lack of precise information, the provisional reference point of 10% addresses overfishing of the parental stock and the potential long-term ramifications for fishery yields. The current high yields caused by above-average recruitment provide the opportunity to increase the spawning potential of the stock (e.g., through increasing the size at first capture) with minimum short-term losses in landings and fishermen's incomes.

APPENDIX B

References

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- Currier, T. 1987. An update on ottertrawl induced lobster damage in Massachusetts waters. Massachusetts Division of Marine Fisheries. Division News. Jan-Mar, 1987.
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- Smith, E.M. and P.T. Howell. 1987. The effects of bottom trawling on lobsters (*Homarus americanus*) in Long Island Sound. *Fishery Bulletin*. 85(4).
- Smith, E.M. and L.L. Stewart. 1985. A study of lobster fisheries in the Connecticut waters of Long Island Sound with special reference to the effects of trawling on lobsters. Report to Connecticut Guard Assembly on Special Act 83-29. 56p.
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APPENDIX C

Public Hearing Summaries and Written Comments

LOBSTER PUBLIC HEARING

May 16, 1991

Quality Inn, Falmouth, MA.

Mr. Jones, chaired the public hearing. He reviewed the public hearing document contained under Binder Tab 6. The proposed actions in the document are:

- 1) To reduce the minimum carapace size (gauge size) of 3-9/32 inches for American lobster caught in the U.S. Exclusive Economic Zone (EEZ) to 3-1/4 inches to conform to the size that is currently required in the major lobster-producing states of Maine, Massachusetts and Rhode Island.
- 2) To delay the re-implementation of the current 3-9/32 inch Federal gauge size until July 1, 1992, unless the New England Fishery Management Council (Council) has developed a comprehensive fishery management plan (FMP), approved it, obtained the approval of the Atlantic States Marine Fisheries Commission (ASMFC) and submitted that FMP to the Secretary of Commerce before March 1, 1992. The proposed increase to 3-5/16 inches and the corresponding changes in escape vent requirements would be delayed until January 1, 1993 unless the above conditions were met.
- 3) To modify the minimum dimensions of the escape vent to provide optimum escapement of smaller than legal-size ("sublegal") lobsters consistent with a 3-1/4 inch minimum carapace size. For rectangular escape vents the opening must be not less than 1-7/8 inches high by 6 inches wide. For circular vents, traps must contain two opening not less than 2-3/8 inches in diameter.

Mr. Jones noted that the revised definition of overfishing was now included in the public hearing document.

Mr. Jones opened the hearing to comments.

Mr. William Adler, Executive Director, Massachusetts Lobstermen's Association spoke in support of the proposed action to bring the gauge back to 3-1/4 inches. He also supported some measure to extend the discussion points that were voted last January to allow sufficient time to accomplish the mission that was given to the Lobster Working Group. He was also in favor of the overfishing definition as voted by the Council. He said that he would caution that using the 10% was all right, but to be aware that the scientists could come back when they do have more material and ask for a change. He wanted it clear that if the material changed that the definition could be changed to reflect that.

Mr. Edward Blackmore, President, Maine Lobstermen's Association, spoke in favor of reducing the gauge to 3-1/4 inches. He supported the overfishing definition presented by Mr. Coates and Mr. Brennan. He supported the 10% amount in the definition.

Mr. Loyall Sewall, speaking for the Maine Lobster Dealer's Association, supported the 3-1/4 inch lobster gauge. They also supported the amended overfishing definition. He said that the key was in the preamble which stated that it was preliminary numbers which he realized may change. He said that they wanted to

keep the resource healthy. He noted that they were not satisfied with the current data and hoped that the additional information coming in would give the scientific community and the Council an opportunity to come up with a reasonable and reliable plan to preserve the lobster resource.

Ralph Maling, President, Boston Harbor Lobstermen's Association, said that he was not in agreement with the figures available. He said they had their own studies and wanted to see additional figures. He also supported the 3-1/4 inch lobster gauge.

Mr. Adler also wanted to say that his organization supported the 1-7/8 inch escape vent in the lobster traps.

Ms. Sloan said that she felt the 602 Guidelines were not guidelines, but regulations and were being treated as such and as such she felt that they violated Section 301(d) of the law. She felt that the Council should be aware that by being coerced by something being published as regulations that should have been published as guidelines that they were accepting the fact that they are regulations, not guidelines.

Mr. David Cousens, Maine Lobstermen's Association, spoke in support of the move to change the lobster trap escape vent size to 1-7/8 inches and felt it would benefit the resource. He also would like to see the dates changed on the amendment to give more time. He thought that March 1, 1992 for industry to come up with a proposal and March 1, 1993 for submission to the Secretary of Commerce would be more appropriate than the dates in the proposed action.

Mr. Michael Grimshaw, Connecticut lobsterman, fishing in both state and federal waters, spoke in favor of keeping the gauge at 3-1/4 inches and favored conservation also. He thought that more study should be given to the egg production research and that there was insufficient data.

Mr. Maling also spoke in favor of moving the lobster trap escape vent size to 1-7/8 inches.

Mr. Patten White, Maine Lobstermen's Association, asked Mr. Coates about changing the dates of March and June and wanted to know if that was a proposal. Mr. Coates said that would come in a subsequent motion to be presented after the public hearing.

Mr. Jones closed the public hearing.